

MAR 23 2009

120432
PATENTIN THE CLAIMS:

1. (currently amended) A web-enabled automation control module (ACM) comprising:

an ACM central processing unit (CPU); and

a web and file transfer system electrically connected to said ACM CPU, said web and file transfer system embedded within said ACM, said web and file transfer system comprising a web server, a file transfer server, and a database comprising at least one web page file, said web and file transfer system configured to:

process hypertext transfer protocol (HTTP) requests from a network; and

use form data from the HTTP requests to transfer ACM data to said ACM CPU without using a backplane to control operation of said ACM,

wherein said ACM is one of a programmable logic controller (PLC), a computer numeric control (CNC), and a motion control product.

2. (previously presented) An ACM in accordance with Claim 1 wherein said web server is electrically connected to said ACM CPU and the network, said web server configured to process HTTP requests from the network.

3. (currently amended) An ACM in accordance with Claim 2 wherein said web server is configured to receive HTTP requests from the network.

4. (previously presented) An ACM in accordance with Claim 3 wherein said web server is configured to respond to HTTP requests from the network.

5. (previously presented) An ACM in accordance with Claim 4 wherein said database is electrically connected to said web server, and said web server is configured to read said at least one web page file from said database.

120432
PATENT

6. (previously presented) An ACM in accordance with Claim 2 wherein said web server is configured to transfer ACM data from said ACM CPU.

7. (previously presented) An ACM in accordance with Claim 2 wherein said web server is configured to transfer ACM data to said ACM CPU.

8. (previously presented) An ACM in accordance with Claim 5 wherein said web server is configured to transfer ACM data from said ACM CPU and embed said ACM data within said at least one web page file based on function tags embedded within said at least one web page file.

9. (previously presented) An ACM in accordance with Claim 8 wherein said web server is configured to send said at least one web page file through said network using HTTP.

10. (previously presented) An ACM in accordance with Claim 1 wherein said web and file transfer system further comprises a network interface configured for connection to the network.

11. (previously presented) An ACM in accordance with Claim 1 wherein said web and file transfer system is further configured to store user defined web pages.

12. (previously presented) An ACM in accordance with Claim 1 wherein said ACM comprises a backplane interface electrically connected to said ACM and a backplane electrically connected to said backplane interface, said ACM backplane configured for connection with at least one of an input/output (I/O) module and an input module.

13. (currently amended) An automation control module (ACM) system comprising:

an ACM comprising one of a programmable logic controller (PLC), a computer numeric control (CNC), and a motion control product;

a network;

a web-enabled computer electrically connected to said network; and

120432
PATENT

a web and file transfer subsystem electrically connected to said ACM and said network, said web and file transfer subsystem comprising a web server, a file transfer server, and a database, said web and file transfer subsystem configured to:

store at least one user-defined web page file in said database;

process hypertext transfer protocol (HTTP) requests from said network; and

use form data from the HTTP requests to transfer ACM data to said ACM without using a backplane to control operation of said ACM.

14. (previously presented) An ACM system in accordance with Claim 13 wherein said database is electrically connected to said network and said file transfer server.

15. (previously presented) An ACM system in accordance with Claim 14 wherein said file transfer server is configured to read and write to said at least one user-defined web page file stored in said database.

16. (previously presented) An ACM system in accordance with Claim 13 wherein said file transfer server configured to transfer said at least one user-defined web-page file through said network to said computer.

17. (previously presented) An ACM system in accordance with Claim 16 wherein said file transfer server configured to allow a user to perform at least one of create said at least one user-defined web page file and modify at least one user-defined web page file.

18. (original) An ACM system in accordance with Claim 13 wherein said at least one user-defined web page file comprises at least one of hypertext markup language (HTML), Javascript, and references to other files.

19. (original) An ACM system in accordance with Claim 18 wherein said references to other files comprise at least one of at least one image file and at least one Applet.

20. (original) An ACM system in accordance with Claim 13 wherein said at least one user-defined web page file comprises at least one ACM tag function.

120432
PATENT

21. (previously presented) An ACM system in accordance with Claim 13 wherein said file transfer server is a file transfer protocol server.

22. (previously presented) An ACM system in accordance with Claim 14 wherein said web and file transfer subsystem further comprises a network interface electrically connected to said file transfer server and said network.

23. (previously presented) An ACM system in accordance with Claim 22 wherein said ACM comprises an ACM central processing unit (CPU), said web and file transfer subsystem further comprises a web server electrically connected to said network and said ACM CPU, said ACM, and said database, said web-server configured to process hypertext transfer protocol (HTTP) requests from a network.

24. (original) An ACM system in accordance with Claim 13 configured to display at least one user-defined web page file on said computer.

25. (original) An ACM system in accordance with Claim 13 wherein a user is required to enter a valid user name and user password to access said ACM system.

26. (original) An ACM system in accordance with Claim 25 wherein said user configures the number of web and file transfer TCP connections using said computer.

27. (original) An ACM system in accordance with Claim 26 further configured to disable said web and file transfer TCP connections when said user configures zero of said web and file transfer TCP connections.

28. (currently amended) A method for management and control of an automation control module (ACM) including an ACM central processing unit (CPU), wherein the ACM is one of a programmable logic controller (PLC), a computer numeric control (CNC), and a motion control product, said method comprising:

embedding a web and file transfer system within the ACM including electrically connecting the web and file transfer system to the ACM CPU, the web and file transfer

120432
PATENT

system includes a web server, a file transfer server, and a database configured to store at least one web page file;

electrically connecting the web and file transfer system to a network;

processing hypertext transfer protocol (HTTP) requests from the network using the web and file transfer system; and

using form data from the HTTP requests to transfer ACM data to the ACM CPU without using a backplane to control operation of the ACM.

29. (previously presented) A method in accordance with Claim 28 wherein the web server is electronically connected to the ACM CPU and the network, processing HTTP requests from the network using the web and file transfer system comprises processing HTTP requests from the network using the web server.

30. (original) A method in accordance with Claim 29 wherein processing HTTP requests from the network using the web server comprises:

receiving HTTP requests from the network using the web server; and

responding to the HTTP requests using the web server.

31. (previously presented) A method in accordance with Claim 29 wherein the database is electrically connected to the web server, processing HTTP requests from the network using the web server comprises:

receiving HTTP requests from the network;

reading the at least one web page file from the database;

requesting the ACM data from the ACM CPU via function tags embedded within the at least one web page file;

receiving the ACM data from the ACM CPU;

120432
PATENT

embedding the ACM data within the at least one web page file; and

sending the at least one web page file through the network.

32. (previously presented) A method in accordance with Claim 29 wherein processing HTTP requests from the network using the web server comprises transferring ACM data to the ACM CPU using the web server as directed by function tags embedded within at least one web page file and by form data contained in the HTTP request.

33. (previously presented) A method in accordance with Claim 28 wherein the file transfer server is electrically connected to the database and the network, said method further comprising:

storing at least one user-defined web page in the database;

reading the at least one user-defined web page using the file transfer server and the network; and

writing to the at least one user-defined web page using the file transfer server and the network.

34. (original) A method in accordance with Claim 31 wherein the database includes at least one user name and at least one user password, the network includes at least one computer electrically connected to the network, said method further comprising requiring a user input a valid user name and valid user password into the computer to access the web and file transfer system.

35. (original) A method in accordance with Claim 34 further comprising:

allowing a user to configure the number of web and file transfer TCP connections using the computer; and

disabling the web and file transfer TCP connections when the user configures zero of the web and file transfer TCP connections.

120432
PATENT

36. (currently amended) A method for management and control of an automation control module (ACM) using an ACM system, the ACM system including a network and a web-enabled computer electrically connected to the ACM, wherein the ACM is one of a programmable logic controller (PLC), a computer numeric control (CNC), and a motion control product, said method comprising:

embedding a web and file transfer subsystem within the ACM including electrically connecting the web and file transfer subsystem to the ACM and the network, the web and file transfer subsystem includes a web server, a file transfer server, and a database;

storing at least one user-defined web page file in the database;

processing hypertext transfer protocol (HTTP) requests from the network; and

using form data from the HTTP requests to transfer ACM data to the ACM without using a backplane to control operation of the ACM.

37. (canceled)

38. (previously presented) A method in accordance with Claim 36 further comprising:

reading the at least one user-defined web page file stored in the database using the file transfer server; and

writing to the at least one user-defined web page file stored in the database using the file transfer server.

39. (original) A method in accordance with Claim 38 wherein reading the at least one user-defined web page file stored in the database using the file transfer server further comprising:

transferring the at least one user-defined web page file to the computer; and

120432
PATENT

displaying the at least one user-defined web page file on the computer using the file transfer server.

40. (original) A method in accordance with Claim 38 wherein writing to the at least one user-defined web page file stored in the database using the file transfer server comprises allowing a user to modify the at least one user-defined web page file using the computer and the file transfer server.

41. (previously presented) A method in accordance with Claim 36 further comprising allowing a user to create a user-defined web page file using the computer and the file transfer server.

42. (previously presented) A method in accordance with Claim 36 wherein the ACM includes an ACM central processing unit (CPU) and the web and file transfer subsystem further includes a web server electrically connected to the network and the ACM CPU, said method further comprising:

processing hypertext transfer protocol (HTTP) requests from the computer using the web server.

43. (previously presented) A method in accordance with Claim 36 wherein the database includes at least one user name and at least one user password, said method further comprising requiring a user input a valid user name and valid user password into the computer to access the web and file transfer subsystem.

44. (original) A method in accordance with Claim 43 further comprising;

allowing a user to configure the number of web and file transfer TCP connections using the computer; and

disabling the web and file transfer TCP connections when the user configures zero of the web and file transfer TCP connections.

120432
PATENT

45. (previously presented) An ACM in accordance with Claim 1 wherein said ACM is in operational control communication with a device.